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Let *You* Be Bound to *Me* (and *Me* to *You*)

Isabelle Charnavel*

Harvard University

icharnavel@fas.harvard.edu

1. Introduction

According to Kaplan's (1977) Fixity Thesis, the semantic value of indexicals, i.e. first and second person pronouns, is fixed by the context of the actual speech act and cannot be manipulated by any logical operator: *I* refers to the speaker and *you* to the addressee. This theory has been challenged by empirical facts, especially the ability of first and second person pronouns to be bound in English focus constructions and to shift their reference in attitude contexts in some other languages.

The goal of this paper is to provide novel data from English that further refute the Fixity Thesis. Crucially, my new contribution is to show that there is an intrinsic grammatical dependency between the two context parameters speaker *s* and addressee *a*: first person pronouns can bind second person pronouns and *vice versa*. This is so, I argue, because *I* and *you* can be understood as descriptions (e-type pronouns), i.e. "your addressee" and "my addressee" respectively.

2. Novel English data

The argument is based on the availability of what I call "supersloppy readings" in VP-ellipsis and focus constructions as illustrated below in (1) and (3)–(5).

- 1) a. (*Romeo to Juliet*) "I love you".
b. (*Juliet to Romeo*) "I do too".
i. Juliet means: "I love you too". [Juliet loves Romeo] (*supersloppy reading*)
ii. Juliet means: "I love me/myself too". [Juliet loves Juliet] (*strict reading*)

(1) differs from regular cases of VP-ellipsis, which present sloppy and strict readings that are respectively derived from lambda-bound and referential representations of third person pronouns (a.o. Ross 1967, Sag 1976, Williams 1977, Fiengo and May 1994) as shown in (2). The sloppy identity reading in (2)a obtains when the VP antecedent copied into the ellipsis site at LF contains a bound occurrence of the pronoun *her*; the strict identity reading in (2)b arises when that VP involves a free occurrence of *her*.

- 2) a. Julie λi [_{VP} loves her_i mother]. Liz does λi [_{VP} love her_i mother], too. λx . x love x 's mother (*sloppy*)
b. Julie [_{VP} loves her_i mother. Liz does [_{VP} love her_i mother], too. λx . x love $g(i)$'s mother (*strict*)

(1)b does not exhibit a canonical sloppy reading like (2)a: the elided object pronoun cannot be bound by the subject pronoun *I* in (1)b just as *her* is bound by Liz in (2)a, because the corresponding pronouns *you* and *I* in the antecedent (1)a do not share the same person feature; the unavailability of a bound construal for *you* in (1)a makes sloppy identity impossible in (1)b given that sloppy identity is based on binding parallelism. Furthermore, the elided pronoun in (1)b is not referentially identical to the referent of the antecedent *you* (i.e. Juliet) under reading (1)b-i; this is only so under the strict reading in (1)b-ii similar to (2)b. But the reference of the elided pronoun in (1)b depends on that of the subject pronoun *I* under reading (1)b-i: it refers to the addressee of the speaker Juliet, namely Romeo, just like *you* in (1)a refers to the addressee of *I*, the speaker Romeo. It is for this reason that I dub reading (1)b-i "supersloppy": the identity between the antecedent and the ellipsis site is not sloppy in relying on a standard bound variable interpretation of *you*, but supersloppy in relying on some other dependent interpretation of *you* with respect to *I*.

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Conversely, supersloppy readings also obtain in VP-ellipsis cases if we reverse the pronouns *I* and *you*: an object first person pronoun can also depend on a subject second person pronoun so as to give rise to supersloppy identity as shown in (3).

- 3) a. (*Lucy to her mother*) “You don’t understand me”.
 b. (*Lucy’s mother to Lucy*) “You don’t either”.
 i. “You don’t understand me either”. [Lucy does not understand her mother] (supersloppy)
 ii. “You don’t understand yourself either”. [Lucy does not understand Lucy] (strict)

Similarly, focus constructions¹ can be interpreted in the same supersloppy way as illustrated in (4)-(5).

- 4) (*Tom to Sue, in a ballroom dancing class*) “Only I make you swirl”.
 a. No other dancer_i makes his_i partner swirl. (supersloppy)
 b. No other dancer makes Sue swirl. (strict)
- 5) (*Sue to Tom, in a ballroom dancing class*) “Only you didn’t make me fall over”.
 a. All the other dancers_i made their_i partner fall over. (supersloppy)
 b. All the other dancers made Sue fall over. (strict)

In readings (4)a and (5)a, the denotations of the object pronouns *you* and *me* respectively co-vary with the referent of their subject in the focus alternatives involving other salient pairs of dance partners. Again, this compares with the bound pronoun reading in (6)a involving a third person pronoun, even if *I* cannot standardly bind *you* (and *vice versa*) due to their different person features.

- 6) a. Only Tom_i λi [_{VP} made his_i partner swirl]. (Nobody else made their partner swirl) (sloppy)
 b. Only Tom [_{VP} made his_i partner swirl]. (Nobody else made Tom’s partner swirl) (strict)

Moreover, note that the supersloppy and the strict readings are indeed two different readings, i.e. neither entails the other: in particular, there can easily be situations in which (5)b is true but (5)a is false, and *vice versa*.

3. Previous analyses

Previous analyses of indexicals fail to predict the supersloppy readings in VP-ellipsis and focus constructions observed in Section 2: specifically, variable binding approaches undergenerate, and context-shifting approaches overgenerate. This is so in all existing variants of the theories that are presented below.

3.1 Variable binding approaches

The most traditional analysis of indexicals (Kaplan 1977) treats them as constants: *I* refers to the speaker *s*, and *you* to the addressee *a* as represented in (7); in other words, indexicals simply refer to one of the coordinates of the context *c*.

- 7) a. $\llbracket \text{me} \rrbracket^{c,w,g} = s_c$
 b. $\llbracket \text{you} \rrbracket^{c,w,g} = a_c$

This theory however wrongly predicts that first and second person pronouns can never have a bound interpretation contrary to fact: examples of bound first person pronouns are given in (8). For instance, the denotation of *my* under the bound pronoun (sloppy) reading in (8)b-i is not fixed, but co-varies with the subject.

- 8) a. I am the only one around here who will admit that I could be wrong. (Partee 1989)
 b. Only I did my homework. (Heim 1991)

¹ For space reasons, only focus constructions containing *only* will be illustrated in this paper. But a similar reasoning would hold for other focus constructions such as those involving *even* or *also*.

- i. Nobody else did their homework. (sloppy)
 ii. Nobody else did my homework. (strict)

To account for these facts, it has been proposed that just like third person pronouns, first and second person pronouns denote variables that are interpreted *via* the assignment function g . Note that this view is furthermore attractive because all pronouns are thereby interpreted as variables uniformly, and person features are not assigned a specific status as compared to the other *phi*-features.

The variable binding approach comes in different variants.² The presuppositional view (a.o. Heim and Kratzer 1998, Schlenker 2003, Buring 2005, Heim 2008a-b) treats first and second person pronouns as variables and person features as presupposition triggers just like number or gender features (cf. a.o. Cooper 1983, Sauerland 2003) as shown in (9): first person pronouns (resp. second person pronouns) presuppose that their referent is the speaker (resp. addressee) of the current context.

- 9) a. $\llbracket \text{me}_i \rrbracket^{c,w,g} = g(i)$; presupposition: $g(i) = s_c$ ³
 b. $\llbracket \text{you}_i \rrbracket^{c,w,g} = g(i)$; presupposition: $g(i) = a_c$

Based on this semantics, a multidimensional approach (a.o. Heim 2008a, Sauerland 2013, cf. Jacobson 2012 in a variable-free framework) attributes the availability of the bound interpretation in (8) to the properties of focus constructions: the presuppositional meaning does not have to be satisfied in focus alternatives. This derives the bound interpretation in (8) with *only* and focused I , given that *only* crucially involves a set of focus alternatives C , whether it is considered to be a propositional operator as in (10)a or to map an individual to a generalized quantifier as in (10)b.

- 10) a. $\llbracket \text{only} \rrbracket^{c,w,g} = \lambda C. \lambda p. p(w) = 1 \wedge \forall q \in C [q(w) \rightarrow p \subseteq q]$
 b. $\llbracket \text{only} \rrbracket^{c,w,g} = \lambda C. \lambda x_c. \lambda P_{\langle e,t \rangle}. \{y \in C : P(y) = 1\} = \{x\}$

This should moreover extend to ellipsis cases, which arguably also involve focus (a.o. Rooth 1992, Heim 1997, Merchant 2001). The person feature in the ellipsis site in (11) also seems to be left uninterpreted, presumably because the identity condition on ellipsis is subject to focus conditions and focus values are blind to the presuppositional content of *phi*-features.

- 11) a. Johnny did his homework, but I didn't (do my homework). (Heim 2008b:45)
 b. I did my homework, but Johnny didn't (do his homework).

In sum, presuppositional approaches account for person mismatches in focus and ellipsis constructions by positing that the mechanisms that compute focus values and ellipsis resolution may disregard features of bound pronouns.

The minimal pronoun approach (a.o. Kratzer 1998, von Stechow 2003, Heim 2008b, Kratzer 2009) however assumes that features present at LF are always interpreted, but in constructions involving bound readings of pronouns, the variables inherit the *phi*-features of their antecedent in the morphological component only, so that these features are invisible at LF. Specifically, bound first and second person pronouns are distinguished from free first and second person pronouns: while the latter are indexicals as in (7) or presuppositional as in (9) depending on the specific version of the theory, the former are crucially minimal pronouns born featureless, which inherit their morphosyntactic content from their binders due to a transmission mechanism operating at PF. Thus bound occurrences of first and second person pronouns are in fact semantically third person pronouns (variables depending on the assignment function), but morphologically, they look like first and second person pronouns due to Feature Transmission.

12) Feature Transmission: in the derivation of PF, all the *phi* features of a DP must be copied onto pronouns that it binds.

² See Sudo (2012) for a summary of different arguments for and against these views.

³ To accommodate plural pronouns, the following presuppositions have been proposed by a.o. Heim (2008b):

$\llbracket \text{1st} \rrbracket^c = \lambda x_c. x$ includes s_c . x

$\llbracket \text{2nd} \rrbracket^c = \lambda x_c. x$ includes a_c and excludes s_c . x

Such minimal pronouns can appear both in focus and ellipsis constructions.

An alternative account is Sudo's (2012) that unifies the semantics of first, second and third person pronouns by encoding the person information in the system of semantic binding: indices are not just numbers (with type information), but always carry the person information. On the one hand, this ensures that binders and bindees have the same person feature without postulating Feature Transmission; on the other hand, this gives rise to bound readings without assuming disappearance of presuppositions in focus alternatives.

$$13) \text{ a. } \llbracket \text{me}_{i(1)} \rrbracket^{c,w,g} = g(i[1]) \quad \text{b. } \llbracket \text{you}_{i(2)} \rrbracket^{c,w,g} = g(i[2]) \quad \text{c. } \llbracket \text{he}_{i(3)} \rrbracket^{c,w,g} = g(i[3])$$

Moreover both bound and free pronoun readings are derived in the same way, i.e. through the assignment function g : g is assumed to be subject to the admissibility condition in (14) that applies at the utterance level.

14) Admissibility Condition for Assignment Functions (Sudo 2012: 162)

An utterance is felicitously evaluated only if the assignment function g satisfies the following conditions:

$$\text{a. } g(i[1]) = s_c \quad \text{b. } g(i[2]) = a_c \quad \text{c. } g(i[3]) \neq s_c \text{ and } g(i[3]) \neq a_c$$

Note that bound readings under ellipsis such as (11) are not discussed by Sudo (2012); he simply mentions that the judgments of sentences involving VP-ellipsis with a person mismatch are supposed to be degraded at least for some speakers. They could be problematic for the theory depending on the status of the person information in the identity condition that is assumed for ellipsis.

Crucially, all the variants of the variable binding approach, while explaining examples such as (8), do not fare better than the Fixity Thesis for our examples. The Minimal Pronoun approach and Sudo's (2012) crucially rely on the fact that the binder and the bindee share the same person feature; but this is not the case for *I* and *you*. The presuppositional approach does not impose this constraint, but has the same effect: the person mismatch between a binder *only I* and a bindee *you* (or *vice versa*) would be captured as a conflict in presuppositions: for binding between *I* and *you* to happen in the ordinary meaning, we would have to presuppose that there is a unique referent to *I* and *you* that is both a speaker and a hearer, which is impossible in the same context. Moreover, the predicates involved in our examples are not intended to be reflexive (e.g. make oneself swirl in (4)), but we want to have access to pairs of individuals, which is impossible under all these variable binding approaches.

3.2 Context shifting approaches

Context shifting approaches assume mechanisms for shifting indexicals in attitude contexts in some languages. Specifically, Schlenker (2003) proposes that attitude verbs are quantifiers over contexts (monsters in Kaplan's terms), and while English indexicals are lexically specified to be evaluated with respect to the actual speech act, indexicals in other languages such as Amharic can be evaluated with respect to reported speech acts and thus be shifted. Because of the existence of constraints on shiftable indexicals (Shift Together, No Intervening Binder), Anand (2006) instead posits context shifting operators, which are introduced by some attitude verbs in some languages (not in English).

As they stand, these two approaches on context shifting do not say anything specific about our data, since according to them, the context can only be manipulated in attitude contexts. In fact, they basically adopt the presuppositional analysis for bound readings in focus constructions,⁴ which we saw in the previous section cannot capture our data. But it seems that they could correctly predict supersloppy readings in ellipsis constructions if we assume that the character (in Kaplan's terms), which can independently be manipulated in their theories,⁵ can be copied in ellipsis (assuming that there are such things as characters of VPs, and not just of propositions). This is illustrated below for sentence (1) where

⁴ Both Schlenker (2003: 55) and Anand (2006: 95) explicitly mention that only quantification over individuals, not over contexts, is needed in focus constructions.

⁵ This is done even more radically in Heim (1991) that assumes abstraction over contexts even in main clauses because of examples involving amnesiacs presented in Lewis (1979).

the character $\lambda c.\lambda x.x \text{ love } a_c$ is copied from the VP antecedent into the ellipsis site: the referent of *you* thus changes from (a) to (b) since the context of speech is different in (a) and (b).

- 15) a. [cf. (1)a] (*Context 1: Romeo to Juliet*) “I love you”. $s_{c1} \text{ love } a_{c1}$
b. [cf. (1)b] (*Context 2: Juliet to Romeo*) “I do too”. $s_{c2} \text{ love } a_{c2}$

But this approach overgenerates: it wrongly predicts the readings in (16) and (17) to be available.

- 16) a. (*Juliet to Romeo*) “I love you”. $s_{c1} \text{ love } a_{c1}$
b. (*Romeo to Juliet*) “Count Pâris does too” (*love you [i.e. Juliet]). $\text{Pâris } \text{love } a_{c2}$
17) a. (*Romeo to Juliet*) “Count Pâris loves you”. $\text{Pâris } \text{love } a_{c1}$
b. (*Juliet to Romeo*) “Rosaline does not” (*love you [i.e. Romeo]). $\text{Rosaline does not } \text{love } a_{c2}$

Just like in (15), the character VP $\lambda c.\lambda x.x \text{ love } a_c$ has been copied into the ellipsis sites in (16)b and (17)b, giving rise to a different referent for *you* in (16)b as compared to (16)a and in (17)b as compared to (17)a. These readings are however impossible and thus show that assuming character copy in ellipsis overgenerates.

This is further supported by the c-command requirement: the supersloppy reading is not available in (18)b where *I* does not c-command the elided pronoun *you*; this is not predicted by an analysis involving character copy.

- 18) a. (*Romeo to Juliet*) “The man I hate loves you”.
b. (*Juliet to Romeo*) “The woman I hate does not” (*love you).

Furthermore, an extension of this analysis, where characters can be manipulated, to focus constructions also overgenerates, albeit in a different way. Just as for ellipsis, it does predict our supersloppy readings assuming that *only* can quantify over contexts as in (19) or that focus alternatives can be evaluated with respect to different contexts: basically (20) means that among the relevant alternatives, Tom is the only speaker to make his addressee swirl. Note that the fact that dance partners do not necessarily speak is not a problem since contexts are taken to apply to any speech or thought situation, not just to the speech act in which a sentence is actually produced (Schlenker 2003: 29).

- 19) Monstrous *only* (C is a set of pragmatically determined focus alternatives q; K is the set of pragmatically relevant contexts c):⁶

$$\llbracket \text{only} \rrbracket^{c,w,g} = \lambda K. \lambda C. \lambda c^*. \lambda p. p(w)(c^*) = 1 \wedge \forall q \in C, \forall c \in K, [q(w)(c) \rightarrow p \subseteq q \ \& \ c=c^*]$$

- 20) (*Context c*: Tom to Sue, in a ballroom dancing class*) Only I make you swirl. $\lambda c. s_c \text{ make } a_c \text{ swirl}$
 $\forall c [s_c \text{ make } a_c \text{ swirl} \rightarrow c=c^*]$

This analysis however overgenerates since it predicts that any coordinate of the context can be quantified over, contrary to fact. *Here* in (21) cannot be interpreted in a supersloppy way.

- 21) (*Tom on the phone with friends living in different cities*) Only I like it here. $\lambda c. s_c \text{ like } l_c$
*None of Tom’s friends like the city where they live.

Thus clearly, an analysis involving manipulation of the context overgenerates.

Another type of monstrous approach has been proposed by Cable (2005) (and adopted by Kratzer 2009) to capture standard examples of bound readings of first and second person pronouns such as (8). How does it fare in our cases?

⁶ In cases where the target proposition does not include any context-dependent element (e.g. *Romeo loves Juliet*), only the actual context should be taken into consideration in the alternatives in order to get the right result.

Cable's idea is to introduce special versions of Predicate Abstractions for first and second person pronoun binding, which manipulate the coordinates of the context parameter $\langle s, a, w \rangle$ instead of the assignment function g . The following indexical abstraction operators λs and λa are created by movement of first and second person pronouns and shift parameters s_c and a_c respectively; they leave traces t_s and t_a .

- 22) a. $\llbracket \lambda s. [XP \dots t_s \dots] \rrbracket^{\langle s_c, a_c, w \rangle, w, g} = \lambda x. \llbracket [XP \dots t_s \dots] \rrbracket^{\langle x, a_c, w \rangle, w, g}$ b. $\llbracket t_s \rrbracket^{\langle s_c, a_c, w \rangle, w, g} = s_c$
c. $\llbracket \lambda a. [XP \dots t_a \dots] \rrbracket^{\langle s_c, a_c, w \rangle, w, g} = \lambda x. \llbracket [XP \dots t_a \dots] \rrbracket^{\langle s_c, x, w \rangle, w, g}$ d. $\llbracket t_a \rrbracket^{\langle s_c, a_c, w \rangle, w, g} = a_c$

For the cases of free pronoun (strict) readings, movement of first and second person pronouns is assumed to create numerical binders λI and $\lambda 2$ and traces t_I and t_2 interpreted *via* g through “privileged” pronominal indices 1 and 2. Otherwise, the semantic values of the pronouns *I* and *you* directly depend on the context parameter as in (7).

Here is how the two readings of (8) are derived under Cable's (2005) account: the crucial parts, i.e. the VPs, are derived in (23)a (sloppy reading) and (23)b (strict reading).

- 23) [= (8)] Only I did my homework.
a. $\llbracket \lambda s. t_s \text{ did my homework} \rrbracket^{\langle s_c, a_c, w_c \rangle, w, g}$
 $= \lambda x. \llbracket t_s \text{ did my homework} \rrbracket^{\langle x, a_c, w_c \rangle, w, g}$
 $= \lambda x. x \text{ did } x\text{'s homework}$
b. $\llbracket \lambda I. t_I \text{ did my homework} \rrbracket^{\langle s_c, a_c, w_c \rangle, w, g}$
 $= \lambda x. \llbracket t_I \text{ did my homework} \rrbracket^{\langle s_c, a_c, w_c \rangle, w, g[1 \rightarrow x]}$
 $= \lambda x. x \text{ did } s_c\text{'s homework}$

Crucially, this approach undergenerates in our cases since each indexical abstraction operator only manipulates one context coordinate, either the speaker or the addressee.

In sum, all the previous approaches to indexicals fail to predict supersloppy readings because there is no specific dependency between the speaker and the addressee built into the system. Either they are simply construed as independent individuals *via* the assignment function, which undergenerates, or they are considered as coordinates of the context, which overgenerates since manipulating them together implies manipulating the whole context. The key will be to hypothesize a specific dependency between these two parameters.

3.3 Complex focus

Before making this hypothesis, let's see if such a dependency could not be derived independently, specifically from focus, assuming that both pronouns (and not just *I*) are focused as represented in (24).

- 24) [= (4)] (*Tom to Sue, in a ballroom dancing class*) Only I_F make you_F swirl.

This is an instance of complex focus similar to (25) (Krifka 1991: 21) where two elements are associated with the same focus operator:⁷ what (25) means is that the only pair $\langle x, y \rangle$ such that John introduced x to y is $\langle \text{Bill}, \text{Sue} \rangle$.

- 25) John only introduced Bill_F to Sue_F . (Krifka 1991: 21)

This hypothesis makes it possible to similarly have access to pairs of individuals in (24), which could be interpreted as saying that the only pair $\langle x, y \rangle$ such that x makes y swirl is the pair $\langle \text{Tom}, \text{Sue} \rangle$. Note that since usual accounts of complex focus do not impose restrictions on the alternative pairs (no specific relation between the two members of the pair is grammatically determined), the restriction to a set of dance partners in the focus alternatives would have to be done in the pragmatics.

This analysis, albeit possible, is not generally applicable. It could only hold for English speakers who

⁷ Hedberg (2013) applies this analysis to *vice versa* clefts of the following kind:

(i) “Anna: So, what’s the case you’re working on? [General Hospital, ABC, 6/21/89]
Robert: Nothing I need bother you with now. It’s YOU who called ME, remember?”

put focal stress on both pronouns. But not all speakers report to have to do so in focus constructions, and the same prosodic pattern would be highly marked in VP-ellipsis constructions. The availability of the supersloppy readings in the absence of complex focus is furthermore confirmed in languages such as French that exhibit clitics.

26) Seul moi te fais tourner.⁸

Only I_CL you_CL make swirl

“Only I make you swirl.”

(supersloppy, strict)

In (26), only the subject pronoun *I* is focused (the strong form *moi* is used, not the weak form *je*), the object pronoun *you* is not: that’s why the clitic form *te* can be used (as opposed to the strong pronominal form *toi*). This means that an analysis involving complex focus cannot explain the facts here.

4. Proposal: dependency speaker/addressee

The review of existing accounts of indexicals in Section 3 reveals that the missing element for explaining supersloppy readings is the hypothesis of a dependency between speaker and addressee. This is what I am going to propose in this section.

4.1 *I* and *you* as e-type pronouns

It is conceptually attractive to suppose a dependency between *I* and *you* given that speaker and addressee of the same context are indeed intrinsically related. I propose to build this dependency into the grammar by assuming that *I* and *you* can be considered as descriptions involving the concept of addressee, i.e. they can be e-type pronouns (a.o. Evans 1977, Cooper 1979, Heim 1990, Heim and Kratzer 1998, Elbourne 2001).

An e-type pronoun is basically a definite description with an unpronounced predicate, which is crucially complex: it contains a bound variable and a relational noun whose semantic value depends on the utterance context. This is illustrated by a standard example in (27).

- 27) a. Every host bought just one bottle of wine and served it with the dessert. (Heim & Kratzer 1998: 290)
b. $\llbracket \text{it} \rrbracket^{c,w,g} = \text{the } R_7 \text{ pro}_1$

Here *it* can be interpreted as in (27)b where the free R variable receives a denotation from the context, i.e. the relation that holds between people and bottles they have bought ($\lambda x.\lambda y.y$ is a bottle that *x* bought), and the variable pro_1 (argument of R) is bound by *every host*.

I hypothesize that *I* and *you* can be construed in a similar way except that the semantic value of the silent predicate is fixed lexically instead of depending on the utterance context,⁹ i.e. it denotes the “addressee” function A defined in (28)a that ranges over context participants *s* (speaker) and *a* (addressee) only; the idempotence of function A reflects the reciprocity of the relation between *s* and *a*.

- 28) a. $A = \{ \langle s, a \rangle, \langle a, s \rangle \}$
b. $\llbracket \text{you} \rrbracket^{c,w,g} = \llbracket A(s) \rrbracket^{c,w,g} = a$ *you*: “my addressee”
c. $\llbracket I \rrbracket^{c,w,g} = \llbracket A(a) \rrbracket^{c,w,g} = s$ *I*: “your addressee”

Once this assumption is made, we can derive supersloppy readings as long as we can derive the bound reading of first and second person pronouns since roughly speaking, *my* (resp. *your*) contained in the description *my addressee* (resp. *your addressee*) will end up being bound by the antecedent *I* (resp. *you*); furthermore, we observe that supersloppy readings crucially arise in the same contexts as bound readings of

⁸ There is speaker variation in word order (e.g. both *moi seul te fais tourner* and *je suis le seul à te faire tourner* are also acceptable), but in all cases “you” is crucially a clitic (*te*).

⁹ Interestingly, this could explain why regular e-type construals do not seem to be available for first and second person pronouns as illustrated by (ii) uttered in a context where the speaker is Michael’s spouse:

(ii) *This year everyone was supposed to bring their spouse, but only MICHAEL brought me. (Jacobson 2012: 34)
We can assume that the e-type construal involving the lexically available function “addressee” blocks any other construal based on pragmatically available functions.

first and second person pronouns (namely VP-ellipsis and focus constructions), so that it is reasonable to assume that supersloppy readings are a specific kind of bound readings. Not any analysis of bound indexicals will do though: analyses such as Kratzer (2009)'s or Sudo (2012)'s that crucially rely on the sharing of features between binder and bindee are not compatible with my e-type hypothesis. For convenience, I implement my proposal in Cable's (2005) framework below, but note that a presuppositional and multidimensional approach could also be used (see footnote 11).

4.2 Derivation of supersloppy readings

Under Cable's (2005) framework, the derivations of supersloppy readings go as in (23) except that the pronoun intended to be bound (*you* by *I*, or *me* by *you*) is construed as an e-type pronoun as in (28). This is illustrated below for focus constructions (4) and (5).

- 29) a. [= (4)] (*Tom to Sue, in a ballroom dancing class*) Only I_F make you swirl.
 b. $\llbracket (4) \rrbracket^{<T,S,w_c>,w,g} = \llbracket \text{only } I \lambda s. t_s \text{ make you swirl} \rrbracket^{<T,S,w_c>,w,g}$
 $= \text{only}' (\llbracket I \rrbracket^{<T,S,w_c>,w,g}) (\lambda x. \llbracket t_s \text{ make } A(s) \text{ swirl} \rrbracket^{<x,S,w_c>,w,g})$
 $= \text{only}' (\text{Tom}) (\lambda x. x \text{ make } A(x) \text{ swirl})$
- 30) a. [= (5)] (*Sue to Tom, in a ballroom dancing class*) Only you_F didn't make me fall over.
 b. $\llbracket (5) \rrbracket^{<S,T,w_c>,w,g} = \llbracket \text{only you } \lambda a. t_a \text{ didn't make me fall over} \rrbracket^{<S,T,w_c>,w,g}$
 $= \text{only}' (\llbracket \text{you} \rrbracket^{<S,T,w_c>,w,g}) (\lambda x. \llbracket t_a \text{ didn't make } A(a) \text{ fall over} \rrbracket^{<x,S,w_c>,w,g})$
 $= \text{only}' (\text{Tom}) (\lambda x. x \text{ didn't make } A(x) \text{ fall over})$

The VP-ellipsis cases are derived in a similar way. (31)c shows the derivation of the VP in (1)a that should be copied into the ellipsis site in (1)b to obtain a supersloppy reading.

- 31) a. [= (1)a] (*Romeo to Juliet*) "I love you".
 b. [= (1)b] (*Juliet to Romeo*) "I do too".
 c. $\llbracket \text{VP- (1)a} \rrbracket^{<R,J,w_c>,w,g} = \llbracket \lambda s. t_s \text{ love } A(s) \rrbracket^{<R,J,w_c>,w,g}$
 $= \lambda x. \llbracket t_s \text{ love } A(s) \rrbracket^{<x,J,w_c>,w,g}$
 $= \lambda x. x \text{ love } A(x)$

Note that we have two options here: either we assume copy of the property $\lambda x. x \text{ love } A(x)$ into the ellipsis site, or copy of the string $\lambda s. t_s \text{ love } A(s)$. I explain the advantages and drawbacks of each option below.

The first option (copy of $\lambda x. x \text{ love } A(x)$) amounts to semantic copy, which seems most plausible in view of recent approaches on ellipsis. In that case, the supersloppy reading in (16) repeated in (32) as well as the reading shown in (33) are correctly ruled out because the function *A* only ranges over discourse participants, and Count Pâris is neither a speaker nor an addressee in contexts (b) (where Romeo and Juliet are the discourse participants), so it cannot bind the elided e-type pronoun *A(x)*.

- 32) [= (16)] a. (*Juliet to Romeo*) "I love you". b. (*Romeo to Juliet*) "Count Pâris does too" (*love you)

- 33) a. (*Juliet to Romeo*) "I love you". b. (*Romeo to Juliet*) "Count Pâris does too" (*love his addressee)

(17) is even more easily ruled out since an indexical abstraction operator cannot be created in the first place in the antecedent where the intended binder (Count Pâris) is neither a speaker nor an addressee.

- 34) [= (17)] a. (*Romeo to Juliet*) "Count Pâris loves you".
 b. (*Juliet to Romeo*) "Rosaline does not" (*love you [i.e. Romeo]).

Further note that this hypothesis implies that quantification over context is available with *only* in (29) and (30) (as in 19): because of the range restriction of *A*, all the subjects in the alternatives must refer to discourse participants. Also, this predicts that speaker and addressee are interchangeable in the focus alternatives, as well as in ellipsis constructions: in other words, the supersloppy reading in (35) below is predicted to be available since $\lambda x. x \text{ see } A(x)$ can be copied from the matrix clause to the ellipsis site in the subordinate clause and *you* belongs to the domain of the function *A*. The actual judgment of (35) is questionable.

35) (*Sam to Lynn*) I saw you before you did (?see me). (*supersloppy*)

The second option (copy of $\lambda s. t_s \text{ love } A(s)$) would amount to syntactic copy (note that Cable (2005) distinguishes between the semantic parameter s and the syntactic index s), which could independently be problematic in view of vehicle change issues. The advantage is that this would allow us to give up the domain restriction of A to discourse participants¹⁰ since the relevant readings would not need this requirement any more to be ruled out. Thus (16) is simply ruled out because the binder λs that would be copied into the ellipsis site is incompatible with the third person *Count Pâris*. This would also let us return to a more classic version of *only* without quantification over contexts. Moreover, (35) would be ruled out unless it is analyzed with complex focus on *I* and *you* (maybe a good result given the intermediate status of the judgment).

However, note that one problem with Cable's (2005) approach has been pointed out by Kratzer (2009) and Sudo (2012): it undergenerates because it wrongly precludes mixed readings in sentences involving several indexicals like (36); under his approach, either all indexicals are bound or none of them.

36) Only I believe that my advisor read my dissertation. (Sudo 2012: 160)
(4 readings: Nobody else believes that my/his advisor read my/his dissertation)

This however could seem to turn out to be an advantage for our cases, since they disallow mixed readings.

37) a. (*Martha to Emily*) "I think that my advisor read your dissertation."
b. (*Emily to Martha*) "I do too." i. [think that my advisor read your dissertation] (*supersloppy*)
ii. [think that your advisor read my dissertation] (*strict*)
iii. * [think that your advisor read your dissertation] (*mixed*)
iv. * [think that my advisor read my dissertation] (*mixed*)

This conclusion is nevertheless dubious under closer scrutiny since the optionality of our e-type construal should in fact license mixed readings in sentences like (37) (esp. reading (iv) where the indexical abstraction operator λs is created by movement of *I* and binds *my*, but does not bind *you* when it is not construed as an e-type pronoun). Mixed readings thus turn out to be a bigger problem for Cable's (2005) approach since it undergenerates regular bound readings and overgenerates supersloppy readings. For my cases, this means that another approach on bound readings of first and second person pronouns should ultimately be adopted, but we have seen that all of them face problems; for space reasons, I leave for further occasion the precise examination of how the presuppositional and multidimensional approach would fare when combined with my e-type proposal.¹¹ The behavior of time and location indexicals (e.g. *now*, *here*) will also be examined in future work.¹²

¹⁰ This would potentially allow us to postulate less restricted functions such as "lover" or "dance partner" instead of A to construct our e-type pronouns, which has the advantage of predicting the right focus alternatives more easily (no need to postulate that dance partners are discourse participants). But this implies that such functions are not lexically, but pragmatically available, and thus predicts the phenomenon to be much more general. A supersloppy reading is for instance predicted to arise in (iii), which is dubious (or at least requires a much richer context than (1)).

(iii) Juliet loves Romeo. Romeo does too [?love his lover, i.e. Juliet].

¹¹ Basically it compares with the first option presented above based on Cable's (2005) approach in terms of predictions: postulating a function A only ranging over discourse participants is necessary to make the right predictions in ellipsis. However, a presuppositional and multidimensional approach fares better for mixed readings in regular cases like (36), which are correctly predicted to be available; but it also predicts mixed readings to be available in supersloppy cases like (37) contrary to fact it seems. Furthermore, this approach may appear more attractive than Cable's conceptually as it derives the availability of bound readings of indexicals in specific cases (focus constructions and VP-ellipsis) from the specificity of these constructions (focus), and does not introduce a new mechanism of abstraction into the system. However, it remains to explain in detail how the focus meaning can be blind to the presuppositional content of *phi*-features, but not to other presuppositions (which would make many wrong predictions in *only* constructions).

¹² One issue is that there seems to be a contrast between focus constructions and VP-ellipsis involving *here*. Thus the supersloppy reading in (iv) appears to be more easily available than in (21):

(iv) (*Tom on the phone with a friend living in a different city*) "I like it here." (*Tom's friend to Tom*) "I do too."

5. Conclusion

In this paper, I have provided novel English data in VP-ellipsis and focus constructions showing that first and second person pronouns cannot only be bound like third person pronouns as previously observed, they can also be bound by each other. This further demonstrates *contra* the Kaplanian thesis that indexicals are not simply constants referring to the actual context of speech. More innovatively, this reveals a grammatical dependency between speaker and addressee, which are standardly considered as two independent context parameters.

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Time indexicals are harder to test since it is trickier to construct scenarios with different context times that would license VP-ellipsis constructions. It is not clear whether difference in time zones could be used, as the time is in fact the same for two speakers talking on the phone from different time zones: only their clock is different (Heim, p.c.).